2011 IEEE International Conference on Granular Computing

(GrC 2011)

Kaohsiung, Taiwan 8 – 10 November 2011



IEEE Catalog Number: CFP11GRC-PRT

ISBN: 978-4577-0372-0

2011 IEEE International Conference on Granular Computing *GrC 2011*Table of Contents

PrefaceConference OrganizationProgram Committee Members	xvi
Keynote Speakers and Invited Papers	
Qp"Vqr/p"Tgxgtug"Vqr/m"Swgtkgu<"Xctkcpvu."Cniqtksjou."cpf"Crrnkecvkqpu@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@	00004"
Data Mining and Its Applications in Bioinformatics: Techniques and Methods	3
Granular Mathematics Foundation and Current State	4
Social Intelligence Design for Intercultural Communication	13
Kansei/Affective Value Creation and Its Application to Decision Making	17
Regular Papers	
Constructing Features for Document Classification by Using Temporal Patterns of Usages Hidenao Abe and Shusaku Tsumoto	
Discrete Modelling of p53-Mdm2 Feedback Loop	37
Paraconsistecy in Future Contradictions	42
Non-negative Matrix Factorization Considering Given Vectors in a Basis Yuta Amano, Akira Tanaka, and Masaaki Miyakoshi	48
An Efficient Algorithm for Constructing a Sequence Binary Decision Diagram Representing a Sequences. Hiroshi Aoki, Shigeru Yamashita and Shin-ichi Minato	
Construction of Lexicographic Vocabulary with Nouns, Adjectives, and Verbs for Ouervins	g the

Semantic Web	0
Yu Asano and Yuzuru Tanaka	
Linguistic Analysis of English Books on Environmentology	56
Identifying Multi-View Patterns with Hierarchy and Granularity based Multimodal (HGM) Cognti-Model	
Yee Ling Boo and Damminda Alahakoon	' 1
Class-based Rough Approximation with Dominance Principle	7
A Note on Knowledge Representation Using BB-Mappings	3
Implementation of Mobile Video/Voice over IP and Access Control on Cloud Computing	39
Efficient Reinforcement Learning with Trials-Spanning Learning Scale for Sequenting Decision-making	
An Extended Rough Set Model Based on A New Characteristic Relation)0
An Itinerary for Data Fusion in Distributed Sensor Network)6
Effectiveness of haptic interaction in online negotiation between Chinese and Japanese	11
A Novel Method for Medical Adverse Events Classification	15
An Optimization of Adaptive Transmission with Guarantee Connection Degree for Wireless Sens Networks	
Matrix Theory for Binary Granular Computing	!7
A New Tongue Model Based on Muscle-Control	32

Zhixiang Chen, Xinjing Zhang, and Zhenrong Wu

Initiative Prevention Strategy for Context Inconsistency in Smart Home
Experiments on Probabilistic Approximations
Indiscernibility Relations on Partially Ordered Sets
Attribute Significance for F- Parallel Reducts
Parallel Reduction Based on Condition Attributes
Construction of Tagged Corpus for Nanodevices Development Papers
A Bi-section Graph Approach for Hybrid Recommender System
On Principal Component Analysis for Data with Tolerance
Fuzzy clustering in library readers based on book ratings
The Belief and Plausibility Functions of Incomplete Fuzzy Covering Systems
The Philosophical Investigation of Granular Analysis Method on the Concept of Logical Structures
Extracting refrained phrases from music signals using a frequent episode pattern mining algorithm
An Evolving Process Mining Algorithm Based on Stable Stages Analysis

-			tic Classific I Jianhua C	ation Method hen	ls						208
_				l Attributes		_				_	
Jer	zy Grzy	mala-	Busse and Z	Zdzislaw Hipp	ре						
	ospace: ujuan G			s Selection M	lethod	for Lazy	Learning	Ţ			220
	_		-	c-Means Cl		_					
			ına, Yasuno	ri Endo	• • • • • • •	•••••	•••••	•••••	•••••		.225
		-		Distance Appi Nakamura,		_	rithms				.231
			Making for a	a Shortest Pa tagiri	th Prol	olem with	Interval	Arc Leng	gths		.237
ε-indisc		ty		asymmetr 							with 242
_			•	erting Dumm Lin, Chia-Ch						•••••	.246
_				eb Service Di Cheng, and		•	tiple Hor	ne Social	Network	ζ	.250
			oagation On ongzhi Shi	the EM Algo	orithm.						.256
				Model using siang Chang,						•••••	262
	-		=	Stock Scori	_	-	-				
				Nan Hsieh, Bo							
_		_	on Familiar hua Hu, Ca	rity-Based and imei Lu	d Simi	larity-Bas	sed Socia	l Networl	KS		274

Classification of PICO Elements by Text Features Systematically Extracted from PubMed Abstracts
Ke-Chun Huang, Charles Chih-Ho Liu, Shung-Shiang Yang, Chun-Chih Liao, Furen Xiao,
Jau-Min Wong, and I-Jen Chiang
The Combination of Statistical and Fuzzy Concepts Applied to Fuzzy Aggregating Evaluation
ACAC: Associative Classification Based on All-Confidence
A P2P-based Virtual Cluster Computing using PIAX
Lazy Classification Using Dominance-based Rough Membership Values
Building an Earthquake Evacuation Ontology from Twitter
A combination method for Join Ordering Problem in relational databases using Genetic Algorithm and
Ant Colony
A FCA-based approach for Enriching Users' Knowledge Base
Non-negative Matrix Factorization with Sparse Features
Topic Graph based Transfer Learning via generalized KL divergence based NMF
A Probabilistic Reasoning Algorigthm for Bayesian Networks by Simplifying Their Structures
Daisuke Kitakoshi, Shuhei Wakasaki, and Masato Suzuki
Armstrong systems and Galois connections

An Attempt of Reconstruction of Object-Oriented Rough Set Models
A Social Network Perspective by CRM
Agglomerative Hierarchical Clustering with Dissimilarity Using Discernibility on Attribute Subset for Nominal Data Sets
Yoshifumi Kusunoki, Tetsuzo Tanino
VISIE: A Spatially Immersive Interaction Environment Using Real-Time Human Measurement
Incremental Mining Frequent Itemsets based on the Trie Structure and the Pre-Larg Itemsets
Fuzzy Markup Language for Game of NoGo
Inner Mongolia MengNiu Dairy Company Financial Analysis
Research on Combined Formal Context
The Application of Ant Colony Optimization to the Classification Rule Problem
Instantaneously Warping Interval Computation Using Low Level Intrinsic Mod- Functions
A Novel Frequent Pattern Mining Algorithm for Very Large Databases in Cloud Computing Environments
EMIA: A New Efficient Algorithm for Indirect Associations Mining
Soft Clustering from Crisp Clustering using Granulation for Mobile Call Mining410

Dawara	Linguag	Canionao	Mimaga	Mitim	Dankanda	and Aniket	Mula
rawan i	ungras.	Sarierao	nımse.	NIIIN	Darkunae.	ana Anikei	viuiev

How Culture and Social Relationship Affect Performing and Perceiving of Postures
A comparison of two types of generalized rough sets
Online MOACO Biclustering of Microarray Data
Robust Human Pose Estimation from Corrupted Images with Partial Occlusions and Noise Pollutions
Structure Visualization and Analysis for Software Dependence Network
Rule Induction for Tolerance Relation-based Rough Sets
A General Framework for Rule Acquisition based on Tolerance Granular Computing in IIDSs
Optimal Sub-Reducts in the Dynamic Environment
Improving Keyphrase Extraction by using Document Topic information
Music Interpolation by Wiener Filter and Its Application to Music Arrangement
A Novel Method for Pupil Diameter Measurement based on Fuzzy Techniques
Constructing immersive virtual space for HAI with photos
A Granular-Sequence-Based Approach to Multisets and Rough Sets with Applications

Fatigue Detection Using a Pressure Sensor Chair
Building Earthquake Semantic Network by Mining Human Activity from Twitter
Decision Rule Visualization for Knowledge Discovery by Means of Rough Set Approach502 Motoyuki Ohki, Masahiro Inuiguchi, and Toshinobu Harada
A Method to Dynamically Estimate Emphasizing Points and Degree by Using Verbal and Nonverba Information and Physiological Indices
A Reinforcement Learning Method to Improve the Sweeping Efficiency for an Agent
Properties on Inclusion Relations and Division Charts in Non-deterministic Information Systems
Attribute Value Reduction for Gaining Simpler Rules
Efficient Construction and Usefulness of Hyper-Rectangle Greedy Covers
A Genetic Algorithm to the Minimal Test Cost Reduct Problem
The Research on Scenario Prediction in Business Operation
Generation of Historical Mandible Landmarks for Orthodontic Treatment Using Genetic Algorithm and Finite Element Method
A Hybrid Method for Constructing High Level Architecture of BBS User Network
Consideration on a Formal Frame for Data Mining
Toward Association Rules Rased Decision Making in Linski's Incomplete Information

Databases
Type-2 Fuzzy Functional Inference Method:Design and Properties
Optimization on Digital Watermarking Algorithm Based on SVD-DWT
Implementation of Voice Broadcasting Systems Using Microcontrollers and SIP Protocol586 Chin-Shiuh Shieh, Huang-Pin Huang, Mong-Fong Horng, and Yuh-Chung Lin
Decomposition of Decision Systems Based on Granular Computing
Automatic Approaches to Clustering Occupational Description Data for Prediction of Probability of Workplace Exposure to Beryllium
A Geometric Interpretation of the Neutrosophic Set -A Generalization of the Intuitionistic Fuzzy Set
Applications of Neutrosophic Logic to Robotics an Introduction
A Visualization Adapter for SAGE-Enabled Tiled Display Wall
Fuzzy c-Means Clustering for Data with Tolerance using Cosine Correlation
Performance Improvement of Metric Reconstruction Based on Partial Joint Diagonalization625 Atsushi Takizawa, Akira Tanaka, and Masaaki Miyakoshi
Text Clustering Using a Multiset Model
Attribute value reduction for rule property preservation in variable precision rough set model
The Refinement in Covering-Based Rough Sets

Jianguo Tang, Kun She, and William Zhu

Recording the Activities of Daily Living Based on Person Localization Using an Infrared Ceilin Sensor Network
Shuai Tao, Mineichi Kudo, Hidetoshi Nonaka, and Jun Toyama
Hidden Dynamic Learning for Long-Interval Consecutive Missing Values Reconstruction in EE
Time Series
Handling Greeting Gesture in Simulated Crowd
Simplified Summary of Data Mining applied on Spatial Decision Support System
Clustering-based Analysis in Hospital Information Systems
Combinatorics of Pearson Residuals and Degree of Freedom in Contingency Tables
A New Framework for Incremental Rule Induction based on Rough Sets
Agents' Kansei Expression Based on Variable Neighborhood Models
A Vietnamese Information Retrieval System for Product-Price
Design of an SOA-based Ubiquitous Learning Environment
Efficient Hash-Based Approximate Reduct Generation
The Vectorially Matroidal Structure of Generalized Rough Sets Based on Relations
Reducible matroid and its relationship with covering-based rough sets

Spatial Data Mining under Smart Earth/I' Shuliang Wang, Wei Sun
K-anonymity on Sensitive Transaction Items
Features Extraction Based on Particle Swarm Optimization for High Frequency Financia Data
Tingliang Wang and Min Wang
The Data Model and Structure of Power GIS
Modeling defects in Software Systems
Gene Selection Algorithm Combining ReliefF and Relative Neighborhood Rough Set74. <i>Jiu-cheng Xu, Ling-jun Zhang, Lin Sun and Yun-peng Gao</i>
Rough set and its Application in Chinese Spam Filtering
Decision Support System for Policy Making during a Financial Crisis
Mining Tag Semantics for Social Tag Recommendation
A New Covering Rough Fuzzy Set Model
Automatic Learning Sequence Template Generation for Educational Reuse
Regularized Modularity Eigenmap for Community Discovery with Side Information779 Tetsuya Yoshida
On Modeling MapReduce with Granular Computing
There Exist Correlations between Editing Behaviors and Hyperlinks Structure in Wikipedia790 Haisu Zhang, Liwei Huang, Deyi Li, and Bojin Zheng

Jinfeng Zhang, Zhousuo Zhang, Chuang Sun, and Zhengjia He
Test-Cost-Sensitive Attribute Reduction Based on Neighborhood Rough Set
Scalable Process Modeling based on Net Synthesis under Cloud Computing Environment80' Jiantao Zhou, Rong Liang, Yan Wang
Cognitive Model Based on Granular Computing and Criterion Transformation
Rough Matroid
Short Papers
Towards a Granular Computing Framework for Program Analysis
Algorithm of Matching Webpage and Multi-Domain Ontology
The Framework of Applying Vertex Coloring Method to Identify Genes Associated with Alzheimer Diseases Basing on Gene Expression
Define A Function on Gene Order of DNA Microarray Data and Use It to Identify Genes Associate with Alzheimer's Disease
Emotional Knowledge Base Based on Information Granule
The Model of Thunderstorms Forecast based on Rough set
Mining Biomedical Knowledge Using Mutual information ABC
Soft Homomophism Properties on Soft Groups and Soft Normal Groups

The Strong Correlation of Gene Expression Data on Alzheimer's Disease and Co-Regulation of Gene
Chao-Yang Pang, Dan-Xia Zhang, Long Yang, Xiao-Pei Xia, and Ben-Qiong Hu
The Nonlinear Correlation Character of Gene Expression Data on Alzheimer's Disease and Hierarchy Clustering of Co-Regulated Gene
Chao-Yang Pang, Yong Li, Shuai-Qing Liu, and Ben-Qiong Hu
A Clustering Algorithm of Ad-Hoc Network Based on Honeycomb Division
Knowledge Networks of the Mainland Social Sciences(2009-2010)
Roughness in vector spaces
DH-TRIE Frequent Pattern Mining on Hadoop using JPA
Author Index879